REMARKS

Applicants' representative thanks the Examiner for the courtesy of telephone interviews conducted on February 9 and 16, 2007. The present response addresses substantive points discussed during these interviews. Specifically, independent claims 1 and dependent claims that depend therefrom were discussed, as well as questions regarding support for new claims 30 and 31. It was agreed that the Applicants would submit a new, supplemental amendment (i.e., this amendment), amending claim 1 and canceling several dependent claims, as discussed during the interview, and that the Applicants would provide supplemental discussion as to where new claims 30 and 31 find support in the present application. Accordingly, the present preliminary amendment is believed to constitute a complete written statement of the reasons presented in the interview as warranting favorable action, as required by 37 C.F.R. §1.133.

In claim 1, Applicants have deleted the phrase "said at least one residue being exposed on the alpha helix domain of the polypeptide when the polypeptide is in a tertiary form, wherein said at least one substituted residue is selected from a site on a known protein through which interaction with a Bc12 protein occurs, wherein said modified avian pancreatic polypeptide binds to the Bc12 protein." Applicants also note that claim 1 recites that the modified avian pancreatic polypeptide comprises an amino acid sequence selected from SEQ ID NOs: 23, 24, 25, 26, 27, 28, or 29.

As agreed, Applicants have also cancelled claims 2-5, 12, 13, and 23. The cancellation is made without prejudice or disclaimer. Applicants reserve the right to pursue claims similar or identical to these claims in one or more applications claiming priority to the instant application.

Claims 24 and 25 have also been amended to provide proper antecedent basis.

Claims 1, 19, 24, 25, and 28-31 are now pending for examination. Claims 14-18 and 20-22 have been withdrawn from further consideration.

Claims 30 and 31

Regarding support in the specification for claims 30 and 31, initially, Applicants note that claims 30 and 31 are largely similar to claim 1 (which has not been noted as having any new matter issues), with the exception of certain important phrases, discussed in detail below.

Regarding claim 30, Applicants note that the phrase "wherein the modified avian pancreatic polypeptide comprises a hydrophobic core having a sequence Gly Pro Ser Gln Pro

Thr Tyr Pro Gly Asp Asp Ala Pro" finds support in the application as follows. On page 6, lines 3-8, the specification states:

> Figure 6 – Two views of the universal library that illustrate the relative orientation of the six residues chosen for variation (in beige) on the aPP solvent-exposed face (top). The image on the left sites along the alpha helix axis; the image on the right sites perpendicular to the alpha helix axis. Residues in blue contribute to forming the aPP hydrophobic core. Alignment of aPP and the universal library (bottom). Residues in blue stabilize the aPP hydrophobic core; residues in red are targeted for variation.

Thus, this passage illustrates that aPP has a hydrophobic core. Within Fig. 6, the hydrophobic core (the left, unvarying portion of the sequences shown in that figure) has the sequence GPSQPTYPGDDAP, or using three-letter abbreviations for the amino acids instead of one-letter abbreviations, Gly Pro Ser Gln Pro Thr Tyr Pro Gly Asp Asp Ala Pro.

With respect to the phrase "the modified avian pancreatic polypeptide contains residues on the interior face of the alpha-helix at positions 17, 20, 27, 30 that are respectively Leu, Phe, Tyr, and Asp" in Claim 30, Applicants note that this phrase finds support in the application as follows. On page 8, lines 4-7, the specification states:

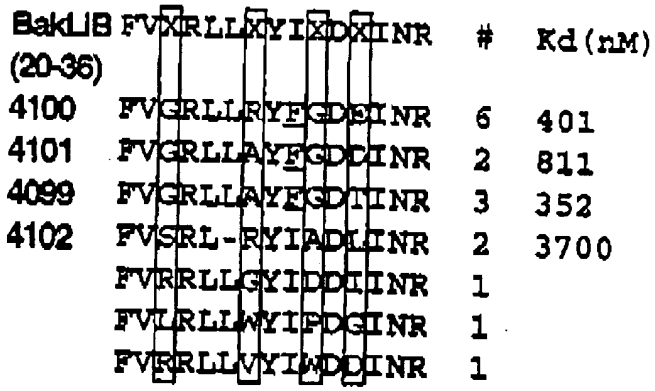
> The stability of the PP fold protein scaffolds of the invention derives predominantly from interactions between hydrophobic residues on the interior face of the alpha-helix at positions 17, 20, 24, 27, 28, 30 & 31 and the residues on the two edges of the polyproline helix at positions 2, 4, 5, 7 & 8.

As noted in the previous paragraph, the PP fold protein scaffold includes avian pancreatic polypeptides. Within the avian pancreatic polypeptide of SEQ ID NO: 6, as modified by SEQ ID NO: 25, positions 17, 20, 27, and 30 are respectively Leu, Phe, Tyr, and Asp, as noted below (in bold):

> Gly Pro Ser Gln Pro Thr Tyr Pro Gly Asp Asp Ala Pro Val Glu Asp **Leu** Ile Arg **Phe** Val Gly Arg Leu Leu Ala **Tyr** Phe Gly **Asp** Thr Ile Asn Arg Tyr

Accordingly, reciting that positions 17, 20, 27, and 30 (which are important for stability, as noted above) are, respectively, Leu, Phe, Tyr, and Asp, is supported by the specification.

Regarding claim 31, the phrase "wherein the modified avian pancreatic polypeptide comprises a hydrophobic core having a sequence Gly Pro Ser Gln Pro Thr Tyr Pro Gly Asp Asp Ala Pro" has been discussed above. Regarding the phrase "the modified avian pancreatic polypeptide contains, at positions 20, 23, 25, 27, 30, 32, 33, 34, and 35, residues Phe, Arg, Leu, Tyr, Asp, Ile, Asn, Arg, Tyr respectively," Applicants note that, in Fig. 4 (reproduced below), close evaluation of all of the sequences for consensus results in this recitation, as follows:



As was previously noted by the Applicants, SEQ ID NOs: 23-29 (shown in Fig. 4) begin at residue 20 within SEQ ID NO: 6. See, e.g., Example 13, which discusses Fig. 4 in depth, including various positions such as position 28 (sometimes mutates from an I to an F), position 26 (which can mutate to R), or position 31 (which can mutate to an E). In Fig. 4, all of the amino acid sequence fragments start with F (or Phe, corresponding to position 20), followed by an invariant R (Arg, position 23), an invariant L (Leu, position 25), an invariant Y (Tyr, position 27), an invariant D (Asp, position 30), and ending with an invariant INR (Ile, Asn, Arg, positions 32-34). Position 35 is not given in Fig. 4, but upon examination of SEQ ID NO: 6, it can be seen that position 35 (the final amino acid of SEQ ID NO: 6) is Tyr (shown in bold):

> Gly Pro Ser Gln Pro Thr Tyr Pro Gly Asp Asp Ala Pro Val Glu Asp Leu Ile Arg Phe Val Gly Arg Leu Leu Ala Tyr Phe Gly Asp Thr Ile Asn Arg **Tyr**

Thus, for at least the above-described reasons, it is believed that claims 30 and 31 are well-supported by the specification, and do not constitute new matter.

CONCLUSION

A favorable action is respectfully requested. If, for any reason, the Examiner is of the opinion that a telephone conversation with Applicants' representatives would expedite prosecution, the Examiner is kindly invited to contact the undersigned at 617-646-8000.

If there is a fee occasioned by this amendment, including an extension fee, that is not covered by an enclosed check, please charge Deposit Account No. 23/2825, under Order No. Y0087.70010US00, from which the undersigned is authorized to draw.

Dated: February 20, 2007

Respectfully submitted,

By _____

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